CLAIMS

CLAIM 1 (Currently Amended) A method comprising:

disposing on a surface a layer of material said layer of material comprising an optically tuned planarizing polymeric layer comprising a polymeric resin a crosslinking agent and a thermal acid generator;

disposing [[in]] on said layer of material a resist material;

said layer of material having a crosslink density sufficiently high that said layer of material and said resist do not substantially intermix.

CLAIM 2 (Previously Presented) A method according to claim 1, wherein said layer of material is a novolak.

CLAIM 3 (Currently Amended) A method according to claim 1, wherein said ~~material~~ polymeric resin is selected from the group consisting of novolac/diazonapthoquinone resists, polysulfones, ~~polyhudroxy~~ ~~styrene~~ polyhydroxystyrene ~~bases~~ based materials, polyimade materials cast from solvents containing no amines.

CLAIM 4 (Original) A method according to claim 1, wherein said resist is exposed to energy to form a pattern in said resist.

CLAIM 5 (Original) A method according to claim 4, wherein said energy is a beam selected from the group consisting of electromagnetic radiation and a particle beam.

CLAIM 6 (Currently Amended) A method [[according to claim 5,]] comprising:

disposing on a surface a layer of material;

disposing in said layer of material a resist material;

said material having a crosslink density sufficiently high that said material and said resist do not substantially intermix;

said resist is exposed to energy to form a pattern in said resist,

said energy is a particle beam;

wherein said particle beam is an electron beam.

CLAIM 7 (Currently Amended) A method according to claim 1, wherein said layer of material has an index of refraction from about 1.4 to about 2.1 and an extinction coefficient from about 0.1 to 0.6 at 365, 248, 193 and 157 nm.

CLAIM 8 (Currently Amended) A method [[according to claim 1]] comprising:

disposing on a surface a layer of material;

disposing in said layer of material a resist material;

said material having a crosslink density sufficiently high that said material and said resist do not substantially intermix; and

~~further including~~ forming a pattern in said resist material, developing said pattern to form a sub 200 nm feature in said layer of material.

CLAIM 9 (Withdrawn) A method according to claim 8, wherein said novolak has an index of refraction which is greater than about 1.65 and less than about 1.95 at wavelength of 248nm.

CLAIM 10 (Withdrawn) A method according to claim 8, wherein said novolak has an extinction coefficient $0.12<k<0.45$ at wavelength of 248nm.

CLAIM 11 (Withdrawn) A method according to claim 8, wherein said novolak has a molecular weight ranging from 2000 to 30000, preferably above 8500 and polydispercity ranging from 1 to 15, preferably less than 3.

CLAIM 12 (Withdrawn) A method according to claim 8, wherein said novolak has been crosslinked with heat to a temperature range of 180°C to 252°C under different processing conditions.

CLAIM 13 (Withdrawn) A method according to claim 8, wherein said novolak has been crosslinked with mid and deep UV or e-beam or other sort of irradiation.

CLAIM 14 (Withdrawn) A method according to claim 8, wherein said novolak has a thickness ranging from 2000 to 10000A.

CLAIM 15 (Withdrawn) A method according to claim 8, wherein said novolak has been removed by dry etching process in an oxygen plasma.

CLAIM 16 (Withdrawn) A method according to claim 2, wherein said layer of novolak material has an index of refraction from about 1.65 to about 1.95 and an extinction coefficient from about 0.16 to about 0.4 at 248nm.

CLAIM 17 (Withdrawn) A structure comprising:

a surface having a layer of material disposed therein;

a layer of resist material disposed on said layer of material;

said material having a crosslink density sufficiently high that said material and said resist are not substantially intermixed.

CLAIM 18 (Previously Presented) A method according to claim 1 wherein said crosslink density is dependent on processing conditions comprising temperature, time, the formulation of said layer of material, the crosslinker that is put into the formulation, and the amount of said crosslinker.

CLAIM 19 (New) A method comprising:

disposing on a surface of an electronic device a novolak material;

curing said material to a predetermined degree of crosslinking;

disposing on said novolak material a resist material, said degree of crosslinking being sufficient to substantially prevent said resist material from intermixing with said novolak material;

exposing said resist to a pattern of energy selected from the group consisting of electromagnetic radiation and a particle beam to form a pattern of exposed and unexposed regions in said resist;

developing said pattern to remove either said exposed or said unexposed regions of said resist to expose said layer of material where said resist in removed;

removing said layer of material where said resist is removed to leave on said electronic device a bilayer of said novolak material and said resist having a pattern therein having regions within which said surface of said electronic device is exposed.

CLAIM 20 (New) A method according to claim 1, wherein said crosslinking agent is a glycoluril resin, said thermal acid generator is *p*-nitrobenzyl tosylate and said polymeric resin is a copolymer of polyhydroxystyrene and ployhydroxystyrene reacted with an anthracenemethanol.